**ECOLOGY QUIZ K/U: /10 T/I: /5 C: /7 A: /9**

**Part A: True/False [K/U: 5 marks]**

*Indicate whether the statement is true (T) or false (F). Write your answer on the line provided.*

1. Earth’s ***atmosphere*** is all the places on Earth where living things can exist.

2. Plants are ***consumers***because they use the Sun’s energy to make their own food.

3. Rain is an ***abiotic*** feature of a forest.

4. All the turtles, frogs, fishes, mosquitoes, aquatic plants, algae, and other living things in a pond make up a ***population***.

5. The characteristics of a species in its ecosystem, including what it eats, who its’ predators are and where it lives, is called its ***ecological niche***.

**Part B: Multiple Choice [K/U: 5 marks]**

*Identify the choice that best completes the statement or answers the question. Write your answer on the line provided.*

6. Foxes and coyotes both feed on mice and rabbits. What type of species interaction is this an example of?

1. competition
2. predation
3. mutualism
4. commensalism

7. Which of the following is a consumer that eats **only** other consumers?

|  |  |
| --- | --- |
| a. | herbivore |
| b. | carnivore |
| c. | omnivore |
| d. | scavenger |

8. What percentage of energy taken in by organisms at one trophic level is passed on to organisms at the next trophic level?

|  |  |
| --- | --- |
| a. | 10 % |
| b. | 20 % |
| c. | 30 %  d. 70 % |
|  |  |

9. Which term describes any factor that limits the size of a population or where it can live?

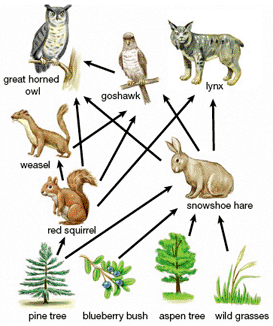
|  |  |
| --- | --- |
| a. | biotic factor |
| b. | abiotic factor |
| c. | limiting factor |
| d. | trophic level |

10. What percentage of the Sun’s radiant energy is absorbed by Earth’s land, atmosphere, and water?

|  |  |
| --- | --- |
| a. | 30 % |
| b. | 50 % |
| c. | 70 % |
| d. | 90 % |

**Part C: Short Answer**

11. Use the food web below to answer the following questions:



a) Identify one producer. [C: 1]

b) Identify one consumer. [C: 1]

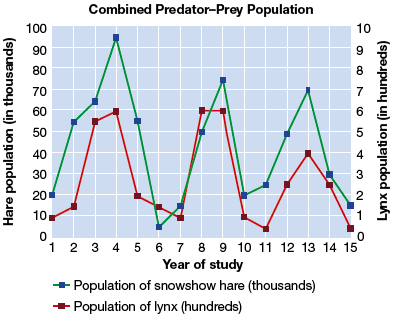
c) What trophic level is snowshoe hare in? [C: 1]

d) Is weasel an herbivore, carnivore or omnivore? [T/I: 1]

e) Explain how the goshawk population would be affected if the red squirrel became extinct. [A: 2]

f) If the red squirrel became extinct, what would happen to the population of great horned owls? Explain. [A: 2]

12. The graph shown below shows the number of snowshoe hares and lynx in Canada during a 15 year period.



21. T

a

a

1. What happens to the population of snowshoe hares as the population of lynx increase? [C: 1]
2. Explain why. [T/I: 2]
3. What happens to the population of lynx as the population of snowshoe hares decrease? [C: 1]
4. Explain why. [T/I: 2]

13. What is the equation for photosynthesis? [C: 2]

14. Give two reasons why photosynthesis and cellular respiration are called complementary processes? [A: 2]

15. Give one example of how humans can affect the carrying capacity of a population in an ecosystem. How does it affect the carrying capacity? Be specific. [A: 3]